

AR79

ELDORADO

ELDORADO NUCLEAR LIMITED

Annual Report 1978

Assets: A Year of Record Growth

1978	\$314,882,000
1977	\$183,775,000
1976	\$125,613,000
1975	\$117,511,000
1974	\$108,864,000



Eldorado Nuclear Limited and the Nuclear Fuel Cycle

Mining: Ore is mined at Beaverlodge Operations in northwestern Saskatchewan



Milling: Ore is milled to produce uranium concentrates (U_3O_8) at the Beaverlodge mill



Refining: Uranium concentrates and depleted uranium are processed at Port Hope, Ont.



UO₂ Uranium dioxide



Fuel fabrication in Canada



CANDU reactors



UF₆ Uranium hexafluoride



Export for enrichment



Fuel fabrication



Light water reactors



Metallurgical Products

The Company

Eldorado Nuclear Limited is a commercially-oriented federal Crown corporation, primarily engaged in the mining and refining of uranium and related activities in the nuclear fuel cycle.

The Company's Beaverlodge Operations, near Uranium City in northwestern Saskatchewan, mine uranium-bearing ore and mill it to produce uranium concentrates (U_3O_8) for markets in Canada and throughout the world. The refinery, located at Port Hope, Ontario, processes uranium concentrates to produce the ceramic uranium dioxide powder (UO_2) used in CANDU reactors, as well as uranium hexafluoride (UF_6) needed as feed material for enrichment plants and ultimate use in light water power reactors. The Port Hope facilities also produce

depleted uranium metal for radiological shielding and other applications. The exploration division, research and development division and the Company's head office are located in Ottawa.

The Company has two wholly-owned subsidiaries. Eldorado Aviation Limited, based in Edmonton, services the mining and exploration divisions. Eldor Resources Limited, with executive offices in Saskatoon, is engaged in developing new uranium properties in northern Saskatchewan.

The objective of Eldorado Nuclear Limited is to make a growing contribution toward satisfying Canadian energy requirements, while maximizing Canada's position in international markets for nuclear fuel.



Kim C. Vardy is a millwright in the maintenance department of the Port Hope refinery, which in 1978 produced 7.1 million pounds of uranium in the form of UF_6 for ultimate use in light water nuclear reactors and 2.1 million pounds of uranium in the form of UO_2 for use in CANDU reactors.

Report to the Shareholder

The Honourable A. W. Gillespie, P.C., M.P.
Minister of Energy, Mines and Resources

Dear Mr. Gillespie:

On behalf of the Board of Directors, I hereby present the Annual Report of Eldorado Nuclear Limited and its wholly-owned subsidiaries, Eldorado Aviation Limited and Eldorado Resources Limited, for the fiscal year ended 31 December 1978.

The past year was one of record achievement for the Company in terms of revenue, net earnings, capital expenditures and total assets. It was also a year in which virtually all areas of Company operations were strained by continuation of Eldorado's development and expansion program designed to help meet the energy requirements of the 1980s.

Consolidated net earnings amounted to \$17,618,000, compared with \$6,933,000 in 1977 and the previous record profit of \$9,715,000 achieved in 1975. Sales revenue in 1978 totalled \$124,046,000, some 80 percent higher than the \$68,623,000 reported in 1977.

The Company's sales strategy in 1978 was designed to assist in the financing of Eldorado's substantial capital expansion programs. The growth in revenue and net earnings resulted primarily from spot sales of uranium concentrates (U_3O_8) at advantageous prices. Such sales accounted for 60 percent of total concentrates revenue.

Production in 1978 represented approximately half of the total 2.7 million pounds of concentrates sold during the year. Most of the balance came from the Company's lower cost inventory built up during earlier years. Most of the remaining U_3O_8 inventories at year-end

were those currently on loan to a Canadian uranium producer, but which are committed for eventual delivery under long-term contracts.

For several years, some uranium concentrates production will be required to fulfill existing long-term contract commitments at prices below current production costs. The anticipated losses on these contracts have been reflected in the 1978 financial statements. In the immediate future, profit performance from concentrate sales will depend largely on the Company's ability to meet production targets and to control costs.

Capital Expansion

Funds from operations supplied 27 percent of the Company's total 1978 investment in new uranium resources and additional processing capacity.

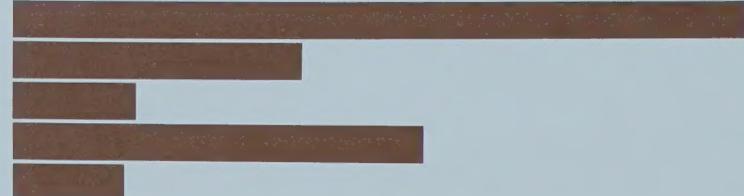
Progress in implementing the expansion program and the resulting record growth in assets was a particularly noteworthy achievement. Approximately \$38 million was invested in the Beaverlodge Operations and in the Refining Division to refurbish existing facilities and to increase operating capacity. This amount is almost double the total outlays made in 1977.

The single largest investment in 1978 was the acquisition, through a subsidiary, of a one-sixth equity interest in the Key Lake joint venture at a cost of \$95 million. Total investment by Eldorado and its subsidiaries during the year amounted to \$133 million, or almost triple the cumulative expenditures for the period 1973 through 1977.

This level of investment represents a

Net Earnings

1978	\$ 17,618,000
1977	\$ 6,933,000
1976	\$ 3,073,000
1975	\$ 9,715,000
1974	\$ 2,638,000



substantial commitment of human and financial resources on Eldorado's part to the advancement of nuclear energy. It reflects a strong conviction that the energy contained in uranium can be used to produce electricity in a manner that is safe, reliable and economic. The husbanding of the world's energy resources, to which most industrial and developing nations are committed, calls for a substantial increase in the use of uranium.

Key Lake

During the year, Eldorado established Eldor Resources Limited, a wholly-owned subsidiary with executive offices in Saskatoon, to acquire a one-sixth equity interest in a joint venture that includes substantial uranium deposits at Key Lake and Maurice Bay, as well as other mineral dispositions in northern Saskatchewan with considerable uranium potential.

Located about 360 miles north of Saskatoon, the Key Lake property includes two uranium deposits in close proximity that are estimated to contain a total of at least 100 million pounds of U_3O_8 in ore averaging more than 2 percent U_3O_8 . The property lies along the southeast rim of the Athabasca sandstone basin in a geological environment which has assumed world-scale importance as a uranium-bearing region.

The discovery was made in 1975 by a joint venture consisting equally of Inexco Mining Company (Canada) Limited, Uranerz Exploration and Mining Limited and Saskatchewan Mining Development Corporation (SMDC), a provincial Crown corporation. As permitted by the terms of

the joint venture agreement, Inexco sold its one-third interest to SMDC, which in turn sold half of the former Inexco interest to Eldor in November 1978.

Eldor is obtaining the capital to acquire the joint venture interest by borrowing and selling up to two million pounds of uranium concentrates from the government stockpile managed by Uranium Canada, Limited (UCAN). Uranium thus borrowed by Eldor is expected to be repaid out of the Company's share of Key Lake production. The security pledged by Eldor against the loan is its interest in the high-grade Key Lake property and other related joint venture projects.

The acquisition of the one-sixth interest cost \$95 million. Eldor made the first payment of \$39 million in November. The second and final payment is to be made in June 1979.

Development of the Key Lake reserves will be carried out by a new company owned by the joint venture. Production at a minimum rate of six million pounds annually is planned for 1983. Eldor's share of the minimum annual production, one million pounds, compares with the 1.8 million pounds expected to be produced annually at Eldorado's Beaverlodge Operations upon completion of the current expansion program.

New Refineries

During 1978, Eldorado's proposal to build a uranium hexafluoride (UF_6) refinery at Port Granby, Ontario near Port Hope was rejected by the federal Department of the

Revenue

1978	\$ 124,046,000
1977	\$ 68,623,000
1976	\$ 47,708,000
1975	\$ 48,499,000
1974	\$ 34,130,000

Environment on the grounds that it represented an inappropriate use of agricultural land and that it lacked support from people living in the immediate vicinity. The Company proceeded to identify the best potential alternative site in each of three Ontario regions—Port Hope, Sudbury and Blind River. The proposal now involves the use of non-agricultural land and has been supported by local government in each of the three regions.

Following the Cabinet review in July 1978 of Eldorado's new refinery program, the Company was directed to submit an Environmental Impact Statement (EIS) on each of the three sites to the environmental assessment panel constituted by the Federal Environmental Assessment and Review Office (FEARO) of the Department of the Environment. The EIS's were completed and submitted to the panel in September. Six weeks of public hearings were conducted in November and December. FEARO was requested by Cabinet to present its recommendations on the environmental acceptability of each site by January 1979.

At the request of the panel, Eldorado outlined during the course of the public hearings the incremental capital and operating costs which would be incurred at the sites in northern Ontario.

A final decision on construction of the proposed Ontario refinery will be made by the Company once the siting question has been resolved by Cabinet and the Company has re-examined the detailed cost estimate and economic feasibility of the project.

The Company is also assessing the feasibility of constructing a UF₆ refinery in Saskatchewan to further process uranium concentrates from mines being developed in that province for production in the 1980s. Extensive environmental studies have been conducted at a site at Warman near Saskatoon. An EIS is being prepared for filing in 1979.

Eldorado's ability to compete in world markets for UF₆ conversion is critical to the realization of an important Canadian government objective—that uranium, surplus to Canada's require-

ments and thus available for export, be processed to as advanced a stage as possible within Canada, provided capacity is available at generally competitive prices.

Since it began producing UF₆ at Port Hope in 1970, Eldorado has demonstrated that it can compete in the international marketplace for UF₆ business, while continuing to produce ceramic uranium dioxide (UO₂) for CANDU reactors. The success of Canada's further processing policy is largely dependent upon Eldorado's continuing ability to meet foreign competition in the production of uranium hexafluoride.

Exploration

The primary objective of the Exploration Division is to expand Eldorado's resource base.

During 1978, mining and petroleum companies are estimated to have spent more than \$80 million in uranium exploration throughout Canada. The Company participated with 25 joint venture partners, including major Canadian and foreign resource companies and foreign utilities, in exploration programs costing in excess of \$9 million. Eldorado's share was \$4.2 million.

Eldorado's exploration field activities ranged from Newfoundland to the Yukon, including seven provinces and both territories. During recent years, field activities have shifted from summer-only to year-round operations. After several years of rapid growth in the exploration program, the number of projects at year-end stood at 25, with several being terminated and replaced with new programs each year. Some of the programs have reached a more mature stage of exploration requiring extensive drilling. Although no mineable reserves have been identified to date, encouraging drilling results have been obtained on several projects.

The most promising exploration area in Canada in recent years has proved to be the Athabasca sandstone basin in northern Saskatchewan and northeastern Alberta. Several hundred million pounds of uranium have been added to Canada's assured reserves during the past few

years by exploration in developed areas and by the discovery of four major orebodies in Saskatchewan, including Key Lake.

Approximately 55 percent of Eldorado's total exploration expenditures during 1978 was concentrated on holdings of 2,945,000 acres (1,047,000 net acres) in the Athabasca basin, including some in Alberta. An exploration office has been established in Saskatoon to direct the Company's programs in the region more effectively.

Eldorado's exploration activities in northern Quebec have employed geological concepts used in exploring the Athabasca basin. Ground exploration and drilling programs continued within the vast area of the James Bay hydroelectric project and several smaller programs were under way north of Schefferville, Quebec. During 1978, new exploration projects were initiated in New Brunswick and Ontario.

Mine and Mill

As noted above, 1978 was a year of record expenditures on the rehabilitation and expansion of facilities at the Beaverlodge Operations to restore the annual production of uranium concentrates to the level of 1.8 million pounds which prevailed during the 1960s. The capital spending program reached an advanced stage during the year with expenditures totalling \$24 million.

Major investments were approximately \$9 million for the mine and mill; \$5 million for housing in Uranium City and the Eldorado townsite; and some \$8 million towards the development of hydro-

electric generating capacity on the Charlot River.

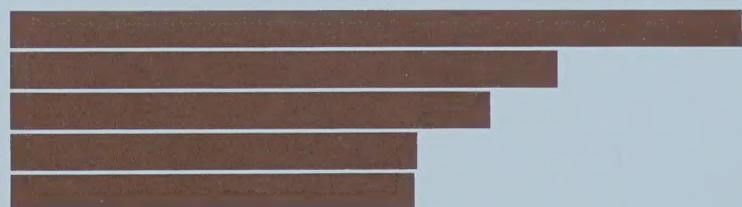
Ore milled at Beaverlodge increased 20 percent in 1978 to 306,600 tons from 255,600 tons the previous year. The increase resulted from higher production from the surface and Verna orebodies. The grade of ore mined declined from 0.25 percent in 1977 to 0.23 percent. This resulted in the production of uranium concentrates or "yellowcake" (U_3O_8) amounting to 1,283,000 pounds, below the planned production but an increase of 8 percent or some 100,000 pounds from 1977. The shortfall in planned production, arising primarily from a shortage of experienced miners, was covered by a short-term borrowing from the government stockpile to meet contractual delivery commitments.

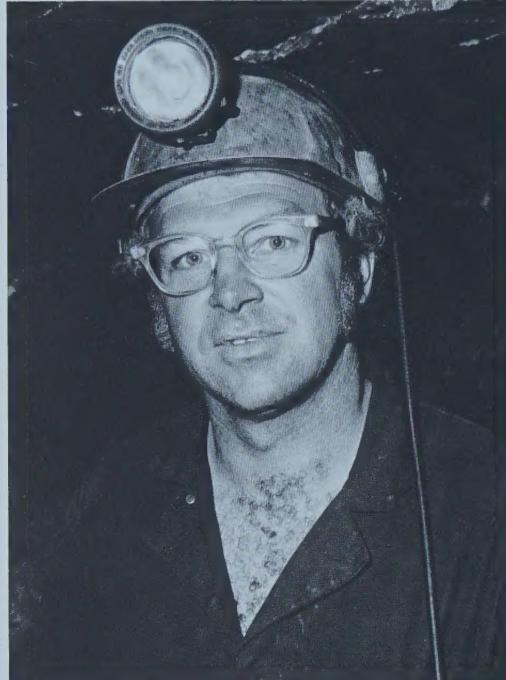
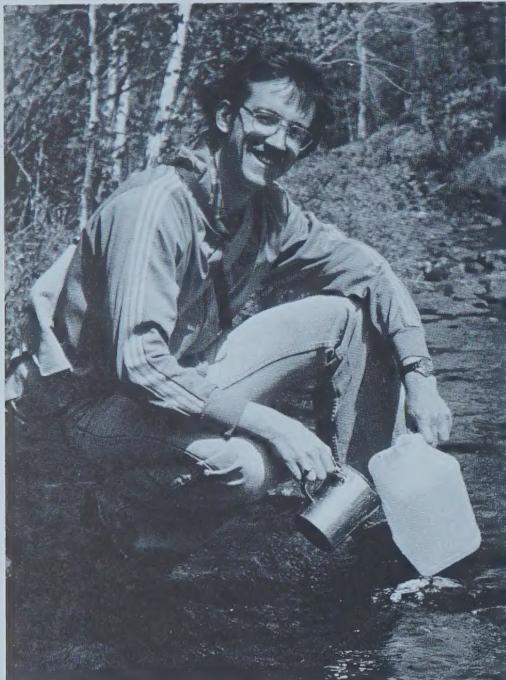
Substantial progress was achieved in adding to underground reserves. Drift development increased 244 percent to 15,857 feet, mainly through the use of outside contractors. Raise development, including ventilation raises, amounted to 4,767 feet, an increase of 100 percent. Underground diamond drilling equalled approximately 92,000 feet. Underground exploration indicates a possible extension of the existing orebodies down to a vertical depth of approximately 6,000 feet. Measured ore reserves at year-end increased seven percent to 4,467,000 tons from 4,189,000 tons a year earlier. Average grade of ore reserves remained unchanged at 0.20 percent.

Eldorado will resume the former practice of custom milling for smaller, nearby uranium mines owned by other companies. Accordingly, custom ore

Ore Mined (tons)

1978	307,000
1977	256,000
1976	196,000
1975	168,000
1974	167,000





Rob Lawrence (far left) is an environmental technician at the Beaverlodge mine/mill, engaged primarily in sampling streams and lakes in the area as part of Eldorado's environmental program.



John Lafferty (left), a life-long resident of northern Saskatchewan, has worked at the Beaverlodge mill for 18 years packing drums of yellowcake.

The excavation of underground drifts that follow or "drift" with the ore is vital to any mine. Dave Roy (left) is one of several miners who collectively excavated more than three miles of drifts in various parts of the mine last year.

receiving and sampling facilities were installed during the year. Cenex Limited is expected to begin ore deliveries from its property near Uranium City to the Eldorado mill early in 1979.

The expansion of the mine and the mill has necessitated a substantial investment by the Company to increase the supply of electricity. Contracts were awarded in 1978 for the further development of the hydro potential of the Charlot River downstream from Eldorado's two existing hydro stations. The schedule for this \$25 million project calls for operation of the first generator late in 1979.

Power generation in 1978 exceeded the 1977 total by 19 percent with a peak demand of 16 MW being recorded in December. Approximately 90 percent of the electricity came from existing hydro facilities, and the balance from diesel generation.

In recent years, Eldorado has invested heavily in the construction of new housing in an effort to improve accommodation for long-service employees and to attract new employees to Uranium City. Forty-six family units were being readied for occupancy at the end of 1978, bringing the total number of units built since 1976 to 196. Most of these are single and semi-detached houses. Almost half of the housing units owned by the Company in Uranium City have been built during this three-year period. Another 60 units are scheduled for construction during 1979. The quality of housing available to Eldorado Beaverlodge employees compares favourably to that available in other Canadian resource communities. The Company was pleased

to receive early in the year an award for residential design from the Canadian Housing Design Council.

Transportation

Throughout its 26 years of production, Eldorado's Beaverlodge Operations have depended on transportation links with the south. Given the large construction program, transportation services established record levels of achievement during 1978.

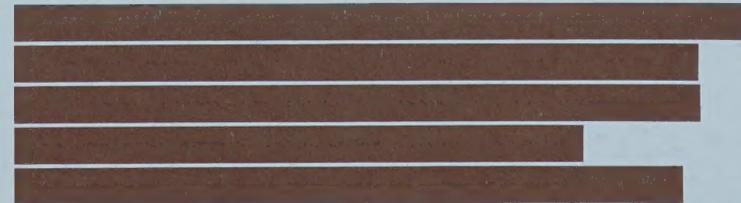
The primary transportation system is the air support provided by Eldorado Aviation Limited, a wholly-owned subsidiary which operates two DC-4 and two DC-3 aircraft, plus four helicopters. The number of ton-miles flown has increased by 12 percent in 1976, 24 percent in 1977 and 35 percent in 1978, the last representing an increase of approximately 1.4 million ton-miles to more than 5.3 million. The number of employees and contractor personnel carried rose by almost one-third to 21,747.

The Beaverlodge Operations are also served by the water transport system operated by Northern Transportation Company Limited. During the shipping season from June to October, NTCL transported 25,000 tons of freight and fuel oil for Eldorado and related projects, an increase of approximately 10 percent over the 1977 level.

The third transportation link is the winter road connecting Uranium City with the highway system in Saskatchewan for about six weeks each winter. Some 300 truckloads carrying 6,300 tons of freight were transported north during the 1978 season. The volume of freight increased

U₃O₈ Production (pounds)

1978	1,283,000
1977	1,185,000
1976	1,188,000
1975	986,000
1974	1,148,000



from the previous year because of large tonnages of cement transported for use in the Charlot River project. The road continues to play an important role in assuring the early delivery of essential materials for the start of construction projects each spring.

Refinery Operations

The Eldorado refinery at Port Hope plays an important role in Canada's uranium industry. During the past 10 years, the Port Hope facility has processed 54 million pounds of uranium owned by electrical utilities in Canada and many other countries.

Total revenue from the conversion of uranium concentrates into nuclear-grade material for enrichment and fuel fabrication rose substantially in 1978. The increase was chiefly the result of delivering early in the year large volumes of UF₆ following the 1977 embargo relating to Canada's policy on safeguards.

Nonetheless, some results were disappointing. Production of UF₆ during the year was below target, amounting to 7.1 million pounds of uranium compared with 8.5 million pounds in 1977. Production difficulties were encountered during the second half of the year following the seven-week strike by members of two locals of the United Steelworkers of America. Therefore, it was not possible to make up for production lost during the strike.

In contrast to the UF₆ performance, the production of ceramic uranium dioxide or UO₂ for CANDU reactors was the highest in the Company's history,

notwithstanding the loss of production during the strike. The existing UO₂ circuit was operated at maximum capacity throughout the remainder of the year and a second continuous reduction unit was installed late in 1978. This resulted in a 14 percent increase in UO₂ production to 21.1 million pounds of uranium in 1978 from 1.8 million the previous year. UO₂ represented 23 percent of the total volume of uranium refined last year.

The increase in UO₂ deliveries stemmed from an earlier than expected start-up of the fourth reactor at Ontario Hydro's Bruce "A" nuclear generating station, and from the continued outstanding performance of the four Pickering "A" reactors, resulting in greater consumption of uranium fuel than had been forecast.

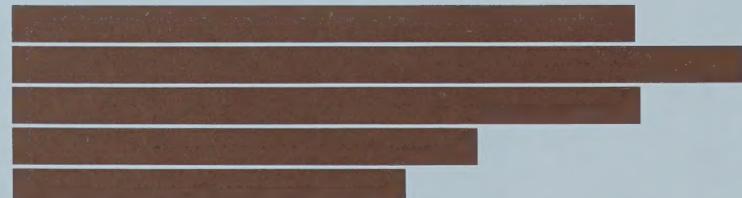
A new UO₂ circuit has been designed for installation in 1979. It will be capable of producing sufficient volumes of uranium in the form of UO₂ to meet the total Canadian requirements into the late 1980s.

Revenues from metallurgical products rose during the year with a substantial increase in production of various forms of depleted uranium metal and alloys. This level of production is expected to continue during 1979.

In addition to expenditures on activities relating to the new Ontario refinery program, approximately \$11 million was invested in 1978 in the improvement and expansion of the Port Hope operations. Capital expenditures at Port Hope during the 1978-1979 period will total an estimated \$30 million.

UF₆ Production (pounds U)

1978	7,096,000
1977	8,525,000
1976	7,331,000
1975	5,433,000
1974	4,519,000





Ron Shortreed (far left) is a pipefitter in the maintenance department of the Port Hope refinery.

The Port Hope refinery made more than 700 shipments of UF_6 in heavy-walled steel cylinders during 1978 on behalf of foreign electrical utilities. Gerrard F. Collins (left) operated the forklift for transporting the 10- and 14-ton cylinders within the yard and onto specially-designed transport trailers.



The air support provided by Eldorado Aviation Limited is vital to the operations of the Beaverlodge mine/mill and the exploration division. Bob Forner (left) is one of the company's helicopter pilots. The number of hours flown by the four helicopters in 1978 increased 53 percent.

Refinery Wastes

The management of wastes throughout the nuclear fuel cycle is an engineering task which the industry is capable of resolving and a problem of public perception which it is learning to overcome. Experience in many countries continues to indicate that the public would like to accept the benefits of nuclear energy but is concerned over the management of wastes that are unavoidably produced in the process. Canada has reaped the benefits of the domestic use of nuclear power and has earned hundreds of millions of export dollars from the sale of uranium and nuclear reactors. In continuing to accept these benefits, it is our view that Canada has an obligation to show leadership in the management of wastes from the nuclear fuel cycle.

Eldorado Nuclear Limited is committed to a comprehensive program for the management of low-level wastes from mining and refining that will meet the increasingly high standards demanded by the public and the regulatory agencies.

Substantial progress was made in reducing the volume of refinery wastes in 1978. Continuing improvements are planned for 1979, which will further reduce the use of the existing waste management area while a decommissioning program is being developed. These measures will also allow sufficient lead time for the orderly development during the next five to 10 years of technologically sound and acceptable methods for the permanent disposal of low-level radioactive refinery residues.

The largest single component of

refinery wastes is raffinate solids, which result from the production of UO_3 , the primary step in refining uranium. The production of one pound of refined uranium results in approximately one pound of raffinate solids. These residues contain a very low level of radioactivity. If an individual were to stand one metre from a drum of this material, he would be exposed to about the same level of radiation received while flying in a jet aircraft.

The Company undertook three important test programs in 1978 for the handling of raffinate solids. The first involved recycling the wastes through a uranium milling process to recover the trace amount of uranium contained in the material. The initial results of the program, conducted jointly with Rio Algom Limited, were encouraging, and a further six-month production-scale run is planned to start in March 1979. Subject to confirmatory results during the test period and to approval of the regulatory authorities, this method of managing raffinate solids offers a practical approach to the disposal of the largest component of refinery wastes.

A second program was carried out in 1978 to develop a method for interim management of raffinate. The residue is converted into a dry, neutral powder for storage in drums, pending the acceptance of a permanent disposal system by the regulatory agencies. This storage system is to be instituted early in 1979, as a back-up to the mill recycling program.

The third program involves converting the raffinate to a dry powder, which would then be drummed for recycling at the mines.

UO_2 Production (pounds U)

1978	2,129,000
1977	1,855,000
1976	1,113,000
1975	1,188,000
1974	1,194,000



Health and Safety

The health and safety of Eldorado employees and the residents of communities in which the Company operates continued to receive high priority during 1978.

Underground ventilation work progressed to facilitate the expansion of ore extraction. The higher volumes of fresh air supplied to the lower levels of the mine have permitted better control of radiation exposure levels. This brings to a total of some 600,000 cubic feet the amount of fresh air being pumped each minute into the mine to control underground radon daughter levels. More than 30 tons of air are being forced down for each ton of ore produced underground.

Among all operating personnel at Beaverlodge, the mean total exposure to radon daughters was 0.9 Working Level Months (WLM) in 1978 compared with the regulatory permissible limit of 4 WLM per year. No employee exceeded the limit.

The program to vegetate exposed mine tailings was continued during the year with encouraging results. This will further reduce radon emissions, control erosion and limit the infiltration of surface water.

At the refinery, the average radiation exposure of employees was 96 millirems (mR) compared with 500 mR maximum exposure permitted for a member of the general public and the 5,000 mR limit for atomic radiation workers. The highest employee exposure recorded was well within regulatory limits.

Special equipment was purchased to improve dust collection and fume scrubbing, to permit the custom fitting of respirators for employees, and to more precisely measure employees' potential exposure to uranium compounds.

For a number of years, Eldorado has been conducting epidemiology research relating to the health effects on former and current employees at all locations of the Company's operations. This research program was accelerated in 1978 with the hiring of Dr. John D. Abbatt as full-time Medical Advisor to co-ordinate Eldorado's expanded medical program. Dr. Abbatt continues to serve as a consultant to the

World Health Organization of the United Nations on radiation epidemiology.

Research and Development

The activities of the Research and Development Division during the year focused on process analysis relating to the extraction of uranium from the ore, the refining of uranium, and the reduction of refinery wastes. New facilities and an increase in personnel have strengthened the Division's analytical capability, especially in the area of radionuclides. As a result, Eldorado was able to increase its knowledge of some of the more complex mineralogical and chemical relationships associated with uranium extraction and processing, and to apply this knowledge to improving processes used by the Company.

The Division contributed to the Company's assessment of metallurgical processes for the extraction of uranium from Key Lake ore, undertook a research program for the recovery of uranium from mine water, materially assisted in increasing the production of UO_2 through process improvements, and provided extensive technical support to the UO_2 and UF_6 expansion projects.

Personnel

The size of Eldorado's workforce increased 18% during 1978 to 1,499 employees. The increases were equally distributed among hourly workers and professional/technical staff. The largest increases in new employees were required at Beaverlodge Operations and the Port Hope refinery to meet production objectives and to carry out the expansion program. Nonetheless, the Company continued to be adversely affected by a critical shortage in the number of experienced underground miners.

Settlements were reached with all four bargaining units in the Company, although the refinery was faced with the first extended strike in its history, lasting seven weeks. The three agreements with locals of the United Steelworkers of America covering employees at the Beaverlodge Operations and at the

refinery expire in 1980. A one-year agreement involving laboratory and clerical personnel in the Research and Development Division expires in 1979.

For the past several years, Eldorado's efforts to recruit natives in northern Saskatchewan for employment at the mine and mill have met with only limited success. During 1978, Eldorado re-organized its native employment program. Previously, natives were trained at one location and were subsequently offered employment by Eldorado at the minesite. The new program consolidates the training and employment phases, thereby reducing the problems associated with relocation. It is hoped that the new program will result in an increase in the number of native employees at Beaverlodge.

The past 12 months constitute a period of outstanding achievement in the generation of profits to help finance the Company's growing commitment to nuclear energy. Employees of Eldorado and its suppliers and contractors contributed substantially to the Company's financial success in 1978 and to the continuing implementation of the current expansion program.

Eldorado Nuclear Limited's primary objective is to assist Canada and other countries in their efforts to ensure an adequate supply of electricity. Eldorado will realize that objective by continuing to produce nuclear fuels for domestic and foreign markets at a profit.



Nicholas M. Ediger,
Chief Executive Officer.

A handwritten signature in black ink, appearing to read "Nicholas M. Ediger".

Direction and Management

Eldorado Nuclear Limited is incorporated under the Canada Corporations Act and listed as a proprietary corporation in Schedule D of the Financial Administration Act. Its shares are held by the Minister of Energy, Mines and Resources in trust for Her Majesty in Right of Canada. The board of directors derives its authority from the shareholder. Directors

are elected annually.

Seven members of the board are outside directors, representing a broad spectrum of business and public policy experience in Canada and elsewhere. In addition to their overall responsibilities as members of the board, each outside director serves on at least one of the board's committees.

Board of Directors

Marcel Bélanger, O.C., C.A.

President

Gagnon et Bélanger Inc.

Quebec City, Quebec

Also director of:

Abitibi Paper Company Ltd.

Bell Canada

Celanese Canada Limited

The Great West Life Assurance Company

Le Group Commerce

The Hudson's Bay Company

John Labatt Limited

Pratt & Whitney Aircraft of Canada Ltd.

The Price Company Ltd.

Provigo Inc.

The Provincial Bank of Canada

W. J. Bennett

Consultant

The Iron Ore Co. of Canada Ltd.

Montreal, Quebec

Also director of:

The C. D. Howe Research Institute

Canadian Pacific Limited

Canadian Reynolds Metals
Company Limited

Canron Limited

Cominco Ltd.

Gleneagles Investment Co. Ltd.

The Investors Group

Peterson, Howell & Heather
(Canada) Limited

Philips Canada Ltd.

Dr. Roger A. Blais

Dean of Research

Ecole Polytechnique

Montreal, Quebec

Also director of:

International Development

Research Centre

Mineral Exploration

Research Institute

L. C. Bonnycastle, B.A., F.S.A.

Vice-Chairman

Canadian Corporate Management

Company Limited

Toronto, Ontario

Also director of:

Canadian Corporate Management

Company Limited

and a number of its subsidiaries

Harlequin Enterprises Limited

N. M. Ediger

President & Chief Executive Officer

Eldorado Nuclear Limited

Ottawa, Ontario

Also director of:

Canadian Nuclear Association

Council, The Uranium Institute

Eldor Resources Limited

Eldorado Aviation Limited

The Mining Association of Canada

National Council, Canadian

Institute of International Affairs

J. Gerald Godsoe, Jr.

Partner

Stewart, MacKeen & Covert

Halifax, N.S.

Maurice A. A. C. Swertz, Sr.

President

Swertz Bros. Construction Ltd.

Weyburn, Saskatchewan

Also director of:

Frontier Homes Ltd.

Global Homes Ltd.
Lumberjack Enterprises Ltd.
Weyburn Industries Ltd.

N. G. Van Nest
President and Chief Executive Officer
Triarch Corporation Limited
Toronto, Ontario
Also director of:
Canadian Venture Capital Corporation

Elliott & Page Limited
Jonlab Investments Limited
National Business Systems Inc.
Royal Canadian Geographical Society
Triarch Corporation Limited
Young People's Theatre

Board Committees

Audit Committee	Executive Development and Compensation Committee
M. Bélanger, Chairman	W. J. Bennett, Chairman
L. C. Bonnycastle	R. A. Blais
J. G. Godsoe, Jr.	L. C. Bonnycastle
Finance Committee	M. A. A. C. Swertz, Sr.
N. G. Van Nest, Chairman	
W. J. Bennett	
N. M. Ediger	

Officers

Nicholas M. Ediger President and Chief Executive Officer	Maurice J. Moreau Vice-President, Resources
George Boyce Vice-President, Marketing	David J. Elgee Secretary
Ronald G. Dakers Vice-President, Refining	Gordon A. Frost Treasurer
Thomas J. Gorman Vice-President, Finance	Gordon R. Burton Assistant Secretary
James T. Lyon Vice-President and General Counsel	Douglas G. Hall Assistant Treasurer

Financial Review and Consolidated Statements
for the year ended December 31, 1978

Contents

Financial Review	page 19
Responsibilities for Financial Statements	page 22
Statement of Accounting Policies	page 22
Statement of Consolidated Earnings and Retained Earnings	page 24
Statement of Consolidated Financial Position	page 25
Statement of Changes to Consolidated Financial Position	page 26
Notes to Consolidated Financial Statements	page 27
Auditor's Report	page 30
Five-Year Summary of Operations	page 31

Financial Review

Revenue and Earnings

Net earnings of \$17.6 million were achieved in 1978, more than 2.5 times the level attained last year, and substantially over the previous record in 1975. This dramatic improvement is almost entirely attributable to the profit obtained from increased sales of mine concentrates for spot delivery during 1978.

Sales of products and services in 1978 totalled \$124.0 million, 81 percent above the level of last year. In addition to the high U_3O_8 sales, the increase resulted from the delivery of a large volume of UF_6 to make up for shipments delayed during the federal government's 1977 nuclear safeguards-related embargo on exports of uranium.

Fees from a loan of mine concentrates increased almost 80 percent in the year, reflecting the larger quantity of material outstanding and a rising trend in interest rates.

Gross profit for the year was \$38.7 million, some 31.2% of sales, compared with 40.0% last year. The drop in gross profit margin relates primarily to a provision for anticipated losses on low-priced

U_3O_8 contracts in the next two years in the amount of \$7.6 million. Despite improvements in certain areas, overall results from refinery services were disappointing in 1978. UF_6 conversion, in particular, was affected by the seven-week, plant-wide strike during the year and other production difficulties.

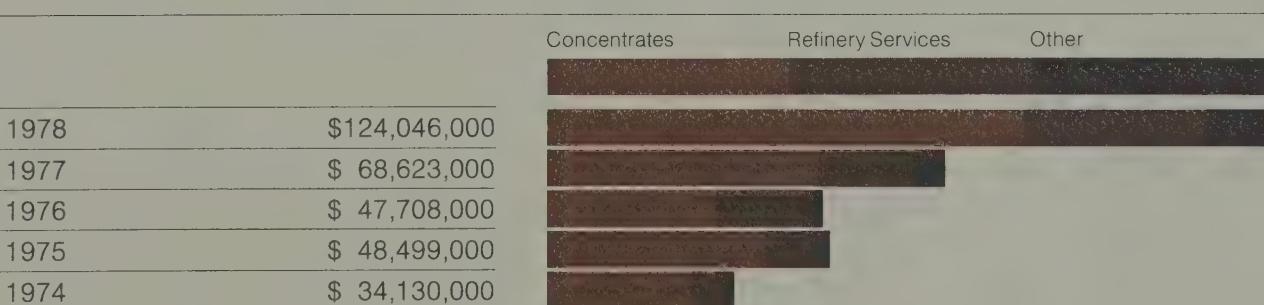
Exploration costs amounted to \$4.2 million in 1978, representing a continuation of the major program begun in 1975 to locate new low-cost sources of uranium. Research and development expenses declined slightly, as the prior year included some extraordinary costs related to the new Ontario UF_6 refinery.

As a result of loss carry forwards and the high capital cost allowance available from the capital spending program currently under way, no income taxes were payable in 1978.

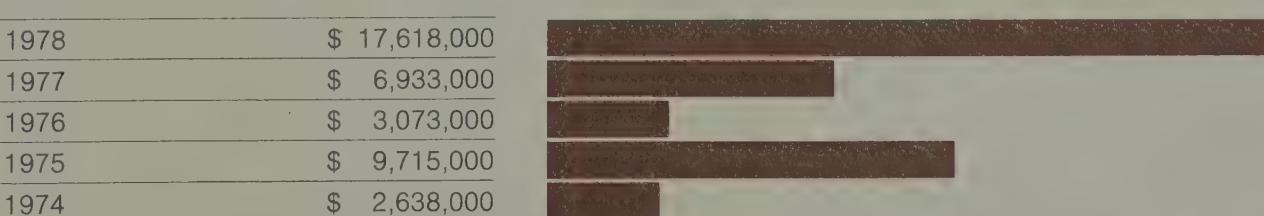
Financial Position

Working capital dropped in late 1978 with the purchase of a one-sixth equity interest in the Key Lake joint venture (see Notes 6 and 10 to financial statements). A final payment of U.S. \$47.55 million

Revenue



Net Earnings



(equivalent to \$56.4 million at December 31, 1978) will be made in June 1979, to be covered through further sales of mine concentrates borrowed from the government stockpile.

A strong cash position was maintained during 1978, with a year-end balance of \$36.1 million in cash and short term investments. This high level of liquidity results from the continuing delays experienced in the new Ontario UF₆ refinery project schedule and the higher cash flow during 1978.

Several drawdowns of mine concentrates to fund the Key Lake acquisition were made during the year, and a further balance will be added during 1979. The new concentrates loans, along with anticipated additional financings to fund the ongoing capital program, will further increase the Company's leveraged posi-

tion in 1979. In spite of these increases, the Company's ability to service the debt remains adequate.

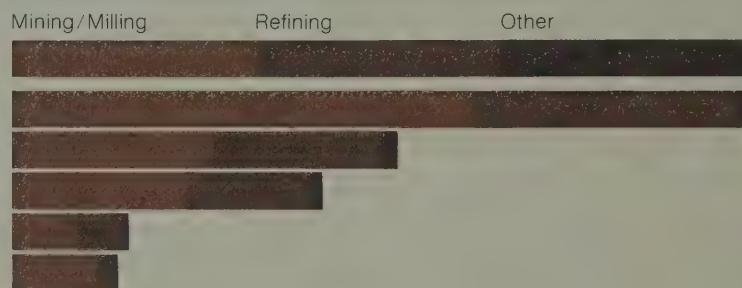
Capital Expenditures

Capital spending reached a new high of \$38.2 million in 1978.

At the Beaverlodge mine, continued rehabilitation entailed expenditures of \$24.3 million during the year. Some \$9.5 million was invested in the mine and mill; \$5.3 million in housing, with the addition of 46 units in Uranium City and refurbishing of accommodation at the Eldorado townsite; \$8.4 million towards the development of hydro-electric generating capacity on the Charlot River; and \$1.1 million in related services.

At Port Hope, some \$10.6 million was spent in the year. Of this amount, \$4.4 million was spent on equipment to

Capital Expenditures



Long-Term Debt and Shareholder's Equity



improve UF₆ process efficiency and to expand capacity; \$1.7 million on the UO₂ facilities, mostly on a new production circuit; \$1.8 million on increasing the output of UO₃, an intermediate product; \$1 million on the new services building; and \$1.7 million on related services.

Expenditures on the new Ontario UF₆ refinery, primarily related to engineering, design and environmental assessments, amounted to \$3 million, while sundry corporate expenditures totalled \$0.3 million.

Income Tax

Eldorado is subject to the full provisions of the *Income Tax Act*, and does not enjoy any special privileges because of its ownership by the Crown. Indeed, since the Company was purchased in 1944, Eldorado has paid some \$29 million in federal income taxes.

As a federal Crown corporation, Eldorado is subject to neither provincial income taxes nor the ten percent federal abatement on such taxes. Because the Company pays income taxes at the full statutory federal rate of 46%, it enjoys only a relatively small effective reduction in total income taxes payable compared to corporations in the private sector.

Apart from provincial income taxes, Eldorado pays all other forms of direct and indirect taxes normally applicable to private sector corporations.

Saskatchewan Uranium Royalties

The Company is subject to the provisions of the Saskatchewan *Mineral Resources Act* for the payment of uranium royalties.

This statute imposes a base royalty of 3% of sales on concentrates mined in Saskatchewan, plus an incremental royalty tax on income earned. No graduated tax is payable before full recapture of invested capital (as defined). The graduated tax is computed at rates ranging from 15% to 50%, depending upon the calculated rate of return on invested capital.

Provincial mineral royalty payments are not deductible from income for determining federal income taxes payable. However, the Company can claim the federal resource allowance of 25% of its profits from the mining and refining of Canadian ores.

Interim Reports

During 1978, the Company began to issue interim reports for the first three quarters of the year. The table below sets out the unaudited results of operations of the Company by quarter for 1978 and 1977. The information contained therein was prepared to reflect all adjustments which were, in the opinion of the Company, necessary for a fair presentation of the results of operations for the periods presented. These adjustments include an accrual of revenues on fixed commitment U₃O₈ deliveries during the year as more fully described in last year's Annual Report. The results for the fourth quarter of 1978 include the impact of a \$7.6 million provision for anticipated losses on U₃O₈ deliveries in the next two years. The nature of Eldorado's business is such that the results of any interim period are not indicative of results for a full year.

Interim Reports (millions of dollars)

		Q1	Q2	Q3	Q4	Year
1978	Revenue	\$43.7	\$37.7	\$21.3	\$21.3	\$124.0
	Gross Profit	.21.4	12.4	7.0	(2.1)	38.7
	Net Earnings	12.3	7.6	2.4	(4.7)	17.6
1977	Revenue	\$15.0	\$11.8	\$19.7	\$22.1	\$ 68.6
	Gross Profit*	4.5	3.5	6.6	12.9	27.5
	Net Earnings	1.6	(.8)	1.4	4.7	6.9

*restated to reflect a change in the treatment of mineral royalties

Responsibilities for Financial Statements

The accompanying financial statements were prepared by management in conformance with generally accepted accounting principles considered to be appropriate in the circumstances. Management and the Board of Directors of the Company are responsible for all information in the report.

To ensure the integrity and objectivity of corporate financial statements, Eldorado maintains a system of internal controls and procedures which is appraised by the auditors. The auditors acquire and maintain an understanding of Eldorado's accounting and financial controls and conduct such tests and related

procedures as they deem necessary in the circumstances to arrive at an opinion on the fairness of the Company's financial statements.

The Audit Committee is composed solely of outside directors. Its principal functions are to review the annual financial statements of the Company and to meet with the auditors and management to satisfy itself that both are properly discharging their responsibilities. The auditors have free access to this Committee to discuss the results of their audit work and their opinions on the adequacy of internal financial controls and the quality of financial reporting.

Statement of Accounting Policies

The accompanying consolidated financial statements were prepared by management in conformance with generally accepted accounting principles considered to be appropriate in the circumstances, and have been applied on a basis consistent with that of the preceding year. A summary of significant accounting policies of the Company is presented to assist the reader in interpreting the statements contained herein.

Consolidation

The consolidated financial statements include the accounts of Eldorado Nuclear Limited and its wholly-owned subsidiaries, Eldorado Aviation Limited and Eldor Resources Limited.

Inventories

Inventories of mine concentrates and refined products are valued at the lower of weighted average cost or net realizable

value. Cost for customer-owned refined products is the cost of the refining process only.

Inventories of mine concentrates are initially measured and accounted for in the financial statements when the material is sealed in containers upon completion of the milling process.

Supplies

Operating and general supplies are carried at cost.

Property and Equipment

Assets are carried at cost. Costs of additions, betterments, and renewals are capitalized. When assets are retired or sold, the resulting gains or losses are reflected in current earnings.

Maintenance and repair expenditures are charged to cost of production.

Depreciation

The principal depreciation method used

is the straight line method based on an average 10 years estimated life.

Mine Development and Preproduction Costs

Certain mine development and refinery costs associated with capacity additions are deferred until commencement of production. These costs are then amortized based on production over not more than 10 years. Other costs are charged to production as incurred.

Research and Development and Exploration Costs

Expenditures for applied research and development relative to the products and processes of the Company and expenditures for geological exploration programs are charged against earnings as incurred.

Pension Plan

The Company has a contributory, defined benefit, trustee pension plan covering all of its regular full-time employees. Assets in the pension fund are valued by a three-year moving average market value method, while liabilities are costed by the projected benefits entry age normal method.

Pension costs are amortized and funded at rates confirmed by the consulting actuary pursuant to periodic actuarial revaluations. All actuarially-determined deficiencies are amortized and funded over periods that adequately reflect their specific nature, up to a maximum of 15 years.

Sales of Products and Services

In accordance with normal industry practices, the Company contracts for future delivery of mine concentrates and refinery conversion services. Sales revenue is recorded in the fiscal year that title passes or, with customer-owned material, when delivery is effected.

Foreign Exchange

Current assets and liabilities are translated into Canadian dollars at rates of exchange in effect at year-end; income and expenses at rates in effect during the year. Gains or losses resulting from such

translation practices are reflected in the statement of consolidated earnings and retained earnings.

Income Tax

The Company follows the tax allocation method of providing for income taxes. Taxable income may be different from reported earnings before taxes because certain items of income and expense are recorded in time periods different for tax purposes from those for accounting purposes. The difference between the taxes calculated as payable each year and those charged against earnings on the tax allocation method is accumulated and carried forward in the statement of consolidated financial position under the caption deferred taxes.

Statement of Consolidated Earnings and Retained Earnings

For the year ended December 31st	1978	1977
Revenue		
Sales of products and services	\$124,046,000	\$ 68,623,000
Expenses		
Cost of products and services sold	85,328,000	41,163,000
Exploration	4,194,000	4,457,000
Research and development	2,069,000	2,132,000
Administration	4,350,000	5,209,000
Other (income) expense	(80,000)	4,950,000
Total Expenses	95,861,000	57,911,000
Earnings before taxes and extraordinary item	28,185,000	10,712,000
Income taxes and mineral royalties	11,055,000	4,794,000
Earnings before extraordinary item	17,130,000	5,918,000
Reduction of income taxes due to loss carry forwards	488,000	1,015,000
Net earnings	17,618,000	6,933,000
Retained earnings at beginning of year	55,502,000	48,569,000
Retained earnings at end of year	\$ 73,120,000	\$55,502,000

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

Statement of Consolidated Financial Position

As at December 31st	1978	1977
Current assets		
Cash and short-term investments at cost	\$ 36,076,000	\$ 41,994,000
Accounts receivable	32,137,000	6,653,000
Mine concentrates on loan	9,413,000	—
Inventories	8,937,000	29,909,000
Supplies	8,996,000	7,414,000
Prepaid expenses	749,000	485,000
	96,308,000	86,455,000
Current liabilities		
Accounts payable	16,310,000	12,649,000
Long-term debt due within one year	11,262,000	6,724,000
Promissory note	56,394,000	—
Other liabilities	3,961,000	141,000
	87,927,000	19,514,000
Working Capital	8,381,000	66,941,000
Non-current assets		
Mine concentrates on loan	25,696,000	25,598,000
Investment in joint venture	96,316,000	—
Property and equipment, net	85,013,000	54,940,000
Deferred charges	5,098,000	3,500,000
Accounts receivable	4,428,000	11,068,000
Other assets	2,023,000	2,215,000
	218,574,000	97,321,000
Capital employed	226,955,000	164,262,000
Represented by:		
Long-term debt	130,366,000	96,414,000
Deferred taxes	7,349,000	—
Other liabilities	9,534,000	5,760,000
	147,249,000	102,174,000
Shareholder's equity		
Share capital	6,586,000	6,586,000
Retained earnings	73,120,000	55,502,000
	79,706,000	62,088,000
	\$226,955,000	\$164,262,000

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

Approved by the Board of Directors on February 27, 1979

Marcel Bilodeau *John Edgerton*

Statement of Changes in Consolidated Financial Position

For the year ended December 31st	1978	1977
Source of working capital		
From operations:		
Earnings before extraordinary item	\$ 17,130,000	\$ 5,918,000
Add charges to earnings which did not require working capital:		
Depreciation and amortization	8,400,000	6,066,000
Deferred taxes	7,349,000	—
Provision for anticipated losses	3,820,000	—
	36,699,000	11,984,000
Increase in long-term debt	45,214,000	43,866,000
Mine concentrates repaid and due within one year	10,230,000	—
Reduction of income taxes due to loss carry forwards	488,000	1,015,000
Decrease (increase) in accounts receivable	6,640,000	(11,068,000)
	99,271,000	45,797,000
Use of working capital		
Increase in carrying value of mine concentrates on loan	10,328,000	9,274,000
Additions to property and equipment	38,188,000	19,697,000
Investment in joint venture	96,316,000	—
Long-term debt due within one year	11,262,000	6,724,000
Other	1,737,000	800,000
	157,831,000	36,495,000
Increase (decrease) in working capital	(58,560,000)	9,302,000
Working capital at beginning of year	66,941,000	57,639,000
Working capital at end of year	\$ 8,381,000	\$ 66,941,000

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

Notes to Consolidated Financial Statements

for the year ended December 31st, 1978

1. Eldorado Nuclear Limited

Eldorado Nuclear Limited is incorporated under the *Canada Corporations Act* and is subject to the *Financial Administration Act* and the *Government Companies Operation Act*. The outstanding shares were acquired by the federal government in 1944 to secure a source of uranium in Canada.

The Company, wholly-owned by Her Majesty in Right of Canada, is involved in various aspects of the nuclear fuel cycle, primarily the exploration, mining and refining of uranium concentrates.

Eldorado's Beaverlodge mine in northwestern Saskatchewan produces uranium mine concentrates for markets in Canada and throughout the world. Most sales are made under long-term, annual delivery contracts, and title transfer is generally made at the Company's refinery prior to further processing. All export contracts must first be approved by federal regulatory agencies.

The refinery at Port Hope processes uranium concentrates to produce uranium dioxide powder and uranium hexafluoride as steps in the nuclear fuel cycle. Utility customers from many nations send material to Port Hope for such processing, and Eldorado delivers the converted product to fabricators in Canada or to enrichment plants in the United States, Europe and the U.S.S.R. At year-end 1978, the refinery held 24 million pounds of customer-owned uranium at various stages of processing. All exports of material on behalf of customers require a licence from federal regulatory agencies.

The Port Hope operation also includes storage facilities for the federal government's uranium stockpile, as well as metallurgical facilities to produce depleted uranium, experimental fuels, and various other related products.

Each year, after the normal preparation, review and approval of budgets by the Board of Directors of Eldorado for the next calendar year, the Company submits the capital budget for approval by the Governor-in-Council upon recommendation of the Minister of Energy, Mines and

Resources, the Minister of Finance, and the President of the Treasury Board. This budget is subsequently tabled in Parliament.

2. Accounting Policies

A statement of significant accounting policies of the Company is provided on page 22.

3. Other Income and Expense

	1978	1977
(thousands of dollars)		
Expenses—		
Interest on long-term debt	\$ 6,118	\$4,104
Site investigations	913	947
Miscellaneous	272	1,207
Income—		
Interest on investments	(4,478)	(1,001)
Other non-operating items	(2,905)	(307)
	\$ (80)	\$4,950

4. Income Taxes and Mineral Royalties

The provisions for income taxes and mineral royalties were as follows:

	1978	1977
(thousands of dollars)		
Income Taxes—current	488	1,015
—deferred	7,349	—
	7,837	1,015
Mineral Royalties	3,218	3,779
	\$11,055	\$4,794

The reconciliation between the federal statutory income tax rate and the Company's effective rate of income tax and mineral royalties is as follows:

	Percentage of Pre-tax Earnings
Federal statutory income tax rate	46.0
Resource and depletion allowances	(19.3)
Adjusted income tax rate	26.7
Inventory allowance	(1.4)
Research allowance	(0.4)
Non-deductibility of income debenture interest	3.4
Other	(0.5)
Effective income tax rate	27.8
Mineral royalties	11.4
Net effective rate	39.2

As the result of an audit of taxation years prior to 1977, the Company has received reassessment notices increasing income for tax purposes by approximately \$4.0 million. The Company had sufficient tax loss carry forwards to absorb this increase. The Company has filed a Notice of Objection with respect to these reassessments; however to date no formal decision has been reached.

5. Mine Concentrates on Loan

Mine concentrates on loan are recorded at current inventory cost, which is lower than net realizable value. These costs are classified as either current or non-current assets, according to scheduled or estimated repayments.

Income from the mine concentrates on loan is included in revenues in the amount of \$7.8 million (1977—\$4.4 million).

6. Key Lake Joint Venture

On November 21, 1978, the Company, through its wholly-owned subsidiary Eldor Resources Limited (Eldor), purchased an undivided one-sixth equity interest in the joint venture that discovered and intends to develop the uranium orebodies near Key Lake, Saskatchewan. The transaction was done on an equal basis with Saskatchewan Mining Development Corporation (SMDC) to acquire the interest of Inexco Mining Company (Canada) Limited in the joint venture.

The cost to Eldor was \$95.1 million, including \$2.2 million in exploration and development expenses incurred prior to the acquisition date. Of this amount, \$38.7 million was paid on November 21, 1978. The balance is payable in June of 1979.

Eldor assumed all the rights and obligations of a joint venture partner as of November 21, 1978, including its requirement to contribute its proportionate share of all expenses incurred. All such costs are being capitalized pending commercial production. No detailed plans have been finalized as yet to determine the production rate or cost of exploitation of the uranium reserves available.

7. Property and Equipment

	1978	1977
(thousands of dollars)		
Land	\$ 3,846	\$ 3,673
Buildings	49,894	39,464
Equipment	103,346	78,297
Construction in progress	5,946	3,644
	163,032	125,078
Less accumulated depreciation	78,019	70,138
	\$ 85,013	\$ 54,940
Depreciation for year	\$ 8,114	\$ 5,870

8. Deferred Charges

	1978	1977
(thousands of dollars)		
Mine development	\$ 4,774	\$ 3,010
Refinery preproduction	324	490
	\$ 5,098	\$ 3,500
Amortization for year	\$ 286	\$ 171

9. Accounts Receivable

In 1977, the Company agreed to extend financing arrangements for the payments due under one sales contract. The terms provide for payment over a 30-month period with financing charges related to the movement of the Consumer Price Index.

10. Long-Term Debt

	1978	1977
(thousands of dollars)		
i) From Canada		
8-3/8% notes due 1978-80	\$ 4,737	\$10,397
7-1/16% note due 1978	—	1,064
7% note due 1979	7,130	7,130
5-7/16% notes due 1980	11,548	11,548
4-15/16% notes due 1981	7,762	7,762
6-1/2% notes due 1982	10,062	10,062
5-7/8% notes due 1983	5,082	5,082
6-3/8% notes due 1984	10,093	10,093
ii) Other		
floating rate income		
debentures due 1983	40,000	40,000
iii) Mine concentrates borrowed	45,214	—
Sub-Total	141,628	103,138
less: Current portion of long term debt listed above	11,262	6,724
Total	\$130,366	\$96,414

10. a) Loans from Canada and other

Prepayment of the notes from Canada may be made in specified groups without premium or penalty. The income debentures bear interest at approximately one-half of the banks' prime lending rate.

The long-term debt payments due in each of the next five years are as follows: 1979-\$11,262,000; 1980-\$12,153,000; 1981-\$7,762,000; 1982-\$10,062,000; 1983-\$45,082,000.

10. b) Mine concentrates borrowed

	1978	1977
(thousands of dollars)		
i) Due by Eldor Resources Limited	\$37,422	-
ii) Due by Eldorado Nuclear Limited	7,792	-
	\$45,214	-

i) Due by Eldor Resources Limited

In conjunction with the purchase of its interest in the Key Lake joint venture (Note 6), Eldor Resources Limited arranged with Uranium Canada, Limited (UCAN) for a loan of two million pounds of uranium mine concentrates (U_3O_8) from the Government of Canada stockpile. This material, of which 730,600 pounds had been drawn down at year-end, is being sold at world market prices to fund the acquisition.

Under the terms of the agreement, Eldor must pay interest on the loan value of borrowed concentrates (the loan value being the price at which it sells the concentrates to its customers) at a rate equal to that charged by the federal government on five-year loans to Crown corporations as of the initial loan date (initially 9 1/8%). This rate is then negotiable every 5 years thereafter. In addition, Eldor is required to pay a standby fee at an annual rate of 1/2 of 1% on the value of unloaned concentrates.

The interest payable to UCAN under the loan agreement is recorded as an increase to the investment in the joint venture and payment is deferred until commencement of commercial production. This deferred interest is then payable out of the operation's cash flow.

The proceeds from the sale of borrowed concentrates are included in the statement of consolidated financial position at December 31, 1978. As Eldor repays the borrowed concentrates, any difference between the average unit loan value and U_3O_8 inventory costs will be included in the statement of consolidated earnings and retained earnings in that year.

After commencement of operations, the loan will be repaid in annual installments, subject to minimum quantity restrictions, with full repayment required by 2010. As collateral for the loan, Eldor has given UCAN a debenture of \$200 million which is secured by a fixed and floating charge on all of its assets and undertakings, both present and future. If Eldor is unable to meet its obligations to return borrowed concentrates on schedule, UCAN has access to Eldor's undivided one-sixth equity interest in the joint venture. The Key Lake discovery alone, which forms part of the joint venture's assets, is estimated to contain 100 million pounds of uranium mine concentrates (U_3O_8) in the two defined ore-bodies.

ii) Due by Eldorado Nuclear Limited

At year-end 1978, the Company borrowed uranium mine concentrates from the Government of Canada stockpile through Uranium Canada, Limited to cover a production shortfall from the Beaverlodge mine. This loan is repayable in kind by December 31, 1980 and bears interest at the one-year Crown corporation borrowing rates in effect from time to time.

11. Sales Contracts

At December 31, 1978, the Company had commitments for the delivery of 11,460,000 pounds of uranium mine concentrates. At year-end provision was made for anticipated losses on low-priced U_3O_8 deliveries in 1979 and 1980 in the amount of \$7,640,000. One-half of this amount is shown in current liabilities.

12. Share Capital

	1978	1977
(thousands of dollars)		
Authorized:		
110,000 common shares of no par value		
Issued and fully paid:		
70,500 shares to Canada	\$6,586	\$6,586

13. Commitments and Contingencies

- a)** The last actuarial valuation of the Eldorado Pension Plan (1959), as of December 31, 1976, revealed a deficiency of \$5,034,740 for the Eldorado companies. The total unfunded liability is being amortized and funded over 15 years as provided in Eldorado's accounting policies and the Pension Benefits Standards Act.
- b)** The Company has entered into long-term leases on certain properties up to 1985 with annual rental payments averaging \$310,000.
- c)** In connection with its operations, the Company is the defendant in certain pending or threatened litigation. It is the opinion of management, based on legal counsel, that these actions will not result in any material liabilities to the Company.

14. Supplementary Information

- a)** The Company's by-laws provide for nine Directors. At December 31, 1978 the Company had nine Directors and eleven Officers. Two of the Directors were also Officers. Remuneration of Officers as Officers in 1978 totalled \$442,203 and remuneration of Directors as Directors in 1978 totalled \$32,750.
- b)** During 1978, sales commissions totalling \$511,847 were paid to Marubeni Corporation, who have been retained as sales agents since 1960. In addition, \$500,000 was paid to Wambesco International b.v., a former sales agent, as part of a settlement reached in 1977.
- c)** The Company was subject during 1978 to restraint of profit margins, prices, dividends and employee compensation under the federal Anti-Inflation Act and Regulations.
- d)** Certain 1977 accounts have been reclassified for comparison purposes.

The Honourable Alastair W. Gillespie,
P.C., M.P.,
Minister of Energy, Mines and Resources,
Ottawa, Ontario

I have examined the statement of consolidated financial position of Eldorado Nuclear Limited as at December 31, 1978 and the statements of consolidated earnings and retained earnings and changes in consolidated financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these consolidated financial statements give a true and fair view of the financial position of the

Company as at December 31, 1978 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

I further report that, in my opinion, proper books of account have been kept by the Company, the financial statements are in agreement therewith and the transactions that have come under my notice have been within its statutory powers.

J. J. Macdonell
Auditor General of Canada

Ottawa, Ontario
February 27, 1979

5-Year Summary of Operations

	1978	1977	1976	1975	1974
Income and Expenses (\$000)					
Sales	\$124,046	\$ 68,623	\$ 47,708	\$ 48,499	\$ 34,130
Gross profit*	38,718	27,460	12,612	17,883	11,976
Net earnings	17,618	6,933	3,073	9,715**	2,638
Net earnings per share (\$)	249.90	98.34	43.59	137.80	37.42
Balance Sheet (\$000)					
Working capital	\$ 8,381	\$ 66,941	\$ 57,639	\$ 69,413	\$ 56,529
Net property and equipment	85,013	54,940	41,113	30,663	27,577
Total assets	314,882	183,775	125,613	117,511	108,864
Long-term debt	130,366	96,414	59,272	55,640	53,045
Shareholder's equity	79,706	62,088	55,155	52,081	42,367
Capital Outlays (\$000)					
Capital expenditures	\$ 38,196	\$ 20,063	\$ 16,201	\$ 6,262	\$ 5,406
Depreciation and amortization	8,400	6,040	5,813	3,216	3,506
Financial Ratios					
Gross profit margin*	31.2%	40.0%	26.4%	36.9%	35.1%
Return on equity	22.1%	11.2%	5.6%	18.6%	6.2%
Return on capital employed	7.8%	4.2%	2.6%	8.7%	2.7%
Debt to capital employed	.57	.59	.50	.50	.54
Interest coverage ratio	5.0	2.7	1.8	3.8	1.7
Current ratio	1.1	4.4	9.7	12.5	6.3
Selected Operating Statistics					
Number of employees at year-end	1,499	1,288	1,105	910	797
Ore mined (000 tons)	307	256	196	168	167
U ₃ O ₈ produced (000 lbs.)	1,283	1,185	1,188	986	1,148
UF ₆ processed (000 lbs. U)	7,096	8,525	7,331	5,433	4,519
UO ₂ processed (000 lbs. U)	2,129	1,855	1,113	1,188	1,194

* Restated for comparative purposes.

** A change in the method of accounting for inventories of mine concentrates from first-in, first-out to weighted average cost caused a decrease in reported earnings for 1975 of \$4,061,000.

Pour se procurer le rapport annuel d'Eldorado Nucléaire Limitée en version française, s'adresser par écrit au siège de la Compagnie: Suite 400, 255 rue Albert, Ottawa, Ontario, K1P 6A9.

Head Office

Suite 400
255 Albert Street
Ottawa, Canada
K1P 6A9

Telephone:
613-238-5222

Telex:
053-3382

